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## IV. CULTIGENTES VARIAE, ET TRANSLATIONES NOMINUM

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# GENTES HERBARUM

Occasional Papers on the Kinds of Plants

By L. H. BAILEY

## IV. Various Cultigens, and Transfers in Nomenclature

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# IV. VARIOUS CULTIGENS, AND TRANSFERS IN NOMENCLATURE

The making of a Manual of Cultivated Plants has required the description of certain plants as new to scientific diagnosis, and has also necessitated a few changes in nomenclature in spite of the effort to avoid them. All these departures are assembled here that they may have regular botanical publication and explanation in advance of the issue of the Manual.

Certain departures must be made from customary botanical procedure if binomial nomenclature is to meet the needs of those who maintain a scientific interest in cultivated plants. We must recognize other categories than the usual concept of species and variety. I am opposed to the bestowal of Latin names on ordinary horticultural varieties or the application to them of the practices of binomial nomenclature. Yet there are great groups or races of plants unknown in an indigenous state that must be recognized if they are to be spoken of with accuracy. In the early days of botanical writing, these groups were freely named, and it is only through a later unnecessary restriction of recognized nomenclature to indigenous or "native" plants that the old practice has fallen largely into disuse. If the restrictions had obtained in the beginning and the early days, we should have no botanical name for maize, chrysanthemum, apple, plum, peach, orange, wheat, oats, barley, pumpkin, lettuce, dahlia, tuberose, and many others; the names early applied to these plants are not founded on feral "types".

We must recognize two classes of plants to which species-names may be applied,—those that are discovered in the wild, and those that arise in some way under the hand of man. Intrinsically they may not differ. Five years ago I contrasted these elements in Science (Vol. xlvii, 306. 1918), and proposed the word *indigen* for the one and *cultigen* for the other, saying that "here we have two classes of facts with no adequate way of expressing one of them in taxonomy". We may not say that a plant is not a "good species" because we do not know its nativity, nor even because it may have originated by some process unknown to us in connection with human uses; for that matter, the process by which any species originates is unknown. In the quest of evolution we search for the origin of species, but when we find an origin we say that the object is not a species.

The indigen, as I define it, is a species of which we know the nativity,—one that is somewhere recorded as indigenous. The cultigen is a species, or its equivalent, that has appeared under domestication,—the plant is cultigenous. I now propose another name, *cultivar*, for a botanical variety,

or for a race subordinate to species, that has originated and persisted under cultivation; it is not necessarily, however, referable to a recognized botanical species. It is essentially the equivalent of the botanical *variety* except in respect to its origin.

Procedure in the naming of cultigens and cultivars must soon receive special consideration. Practically the only real provision so far made for them in the Codes is in respect to hybrids, whereby the times sign (multiplication sign) is used in front of a regular binomial, as × *Rosa Waitziana*, Tratt. This makes an unusable formula, however, for it cannot be pronounced nor will it be often written in general publications; it is a combination of a sign and a name, and such combinations are practically valueless except only as records. Moreover, these formulae cannot be used for any number of common cultigens, for we do not know that such cultigens are hybrids. Assuredly, the formula should be employed only when hybridity is known beyond dispute.

Another allowable method is to combine the names of the parents with the sign between them, as *Phlox paniculata* × *P. maculata*, Brand. This is not a name, but a formula to express an assumed origin; it is too cumbersome to be of service except as a record.

In the Science article to which I have referred, I asked for suggestions as to how cultigens may be named. Aside from advice to use regular binomials but to print them in special type, I have received little response. But a name must be a name quite independently of the type in which a printer sets it.

I propose to continue the good example set by the fathers in using regular binomials, with customary publication, preservation of specimens, and citation of authors, for cultigens as for indigens. I adopt some of the names that have long been current for outstanding cultigens, as *Fuchsia hybrida*, endeavoring in all cases to get them back to a definite description and authority. The defense of this general practice lies in the restraint as to the extent to which cultigens shall be named; but this restraint is needed fully as much with indigens.

One of the sources of our perplexities in the study of cultivated plants is the fact that outstanding races have not been dependably named by botanists. Names have therefore been bestowed by horticulturists, often in an indefinite or inexact way without proper record or diagnosis; as the years go on, it may be difficult to trace them or to determine what they mean. If systematic botany is to make the knowledge of the kinds of plants available to us, it cannot escape the responsibility of meeting horticultural needs. To this end, it is important that binomial nomenclature be kept as simple and as little involved as possible.

It is not to be inferred that cultigens have not been named in recent time. There are many of them, considering that relatively few persons

work in this field; and in this country Rehder has notably undertaken them with much success. Yet as a whole, this phase of systematic botany has not received sufficient recognition.

To account for cultivated plants, it is common practice to refer a modern domesticated race to a recognized species from which it is assmued to have come. Thus, we call certain begonias of the foliage type *B. Rex*, although that species is not in general cultivation; and the character of *B. Rex* cannot be sufficiently expanded to include the cultivated kinds without destroying its meaning as a species and obscuring the entire history. Thus, also, it is customary to refer the pansy directly to *Viola tricolor*, but this is at least inexact. Critical studies of the future will not allow of such simple and easy disposition of cultivated plants.

There is a feeling that there should be a standard uniformity in the founding of species, so that when a specific name is bestowed it means a rather definite category of forms. I am in sympathy with this desire, but the extent to which it can be applied is really very limited. Species-names stand for all grades and kinds of differences. The name itself is not the mark of standardization; the characterization is the measure of the differences, and the indication as to whether the species is "good" or otherwise. Botanists soon come to have an intuition as to the merits of a species or group, quite aside from the fact that it bears a name. The standardization, so far as it is possible, lies in the conception of the species or group and not in the nomenclature.

Cultigens are likely to be various and diverse, but not necessarily so. Wild species are not different; what we know as *Apocynum cannabinum*, for example, is an assemblage of forms capable of several interpretations. Some of the cultigens are close groups with well-marked limits; others, of which *Delphinium cultorum* is one, are looser aggregations and may need to be broken up when carefully studied with ample material.

These, then, are some of the reasons that impel me in the treatment of cultigens. My problem is eminently practical, for I am making a Manual of the North American cultivated flora: I must designate some of these plants or leave them out of the book.

In the following entries, the dagger (†) marks a new name or new transfer.

## PART I. VARIOUS CULTIGENS AND CULTIVARS

In this part I have assembled such novelties and transfers as require special explanation; and I have added discussions of three or four items that do not involve any change of names.

### ADIANTUM

**Adiantum tenerum,** Sw., var. **farleyense,** Nichols. Ill. Dict. Gard. i, 28 (1884).

*Adiantum farleyense,* Moore, Journ. Roy. Hort. Soc. n. s. i, 82 (1866).

There has been so much doubt as to the origin and taxonomic position of the Farley maidenhair that I made a pilgrimage to Farley Hill, Barbados, in 1922 in the hope of learning something about it. In his original description, Thomas Moore says that the plant was, "I am informed, introduced to this country [England] by T. D. Hill, Esq., of London, by whom it was received from his friend T. G. Briggs, Esq., of Barbados, West Indies. Mr. Briggs's residence in that island being called Farley Hill, the fern has been christened as a memento". In a postscript he writes, "Since the above has been in type, I have learned that this fern is a seedling raised at Farley Hill, by which I infer that it is of garden origin, and not *ferae naturae.* It is probably therefore a well-marked sport of *A. tenerum,* or it may possibly be a hybrid between *A. tenerum* and *A. trapeziforme,* as it bears a certain degree of resemblance to both".

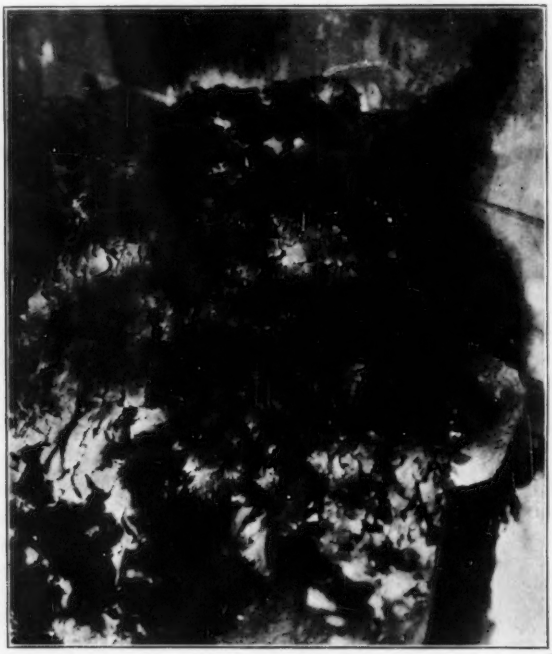

Fig. 51. Adiantum tenerum var. farleyense; old plant at Farley Hill, Barbados.

Farley Hill is the name of an old sugar estate. The great residence and appurtenances were built on an extensive and imposing scale. The plantings and the old stone vessels in which plants are still grown, as well as the approach through an avenue of majestic palms, attest to the interest in plant-growing in former days. The great mansion is now only partly occupied. The remaining residents have only a tradition in respect to the fern, but they are aware that the fern was sent from Farley Hill and they have pride in the name of it. I saw large stone tubs of the fern still growing about the old house, one of which is shown in Fig. 51, but of course these specimens may not be direct descendents from the original although it would be strange indeed if they had been imported from the later commercial stocks. A gardener at the place said it was a tradition that the Farley fern used to grow as a "seedling" in the stone walls about the grounds, but he had heard that the first lot of it came from a natural cave near by. He thought that if I visited the cave I might still find some indications of the fern, although he supposed conditions therein had changed in recent times. At the cave, shown in Fig. 52, I found maidenhairs growing about the outside and also far inside where the light was dim. Specimens from the different habitats and from the plant grown in the tubs were sent later to Dr. Wm. R. Maxon of the National Herbarium, Washington, who found that all of the wild ones are *A. tenerum*. I saw no other Adiantum at the cave. Dr. Maxon further wrote that *A. tenerum* "we must unquestionably regard as the parent of *A. farleyense*, Moore. I am not familiar with the history of *A. farleyense*, but it seems very probable that this must have developed as a pronounced mutant of extreme vegetative vigor. Whether or not it occasionally shows a tendency to revert to something like the usual fertile form of *A. tenerum*, I do not know definitely, though I half recall having seen a partially fertile specimen. Ordinary *Adiantum tenerum* sometimes shows the beginning of a dissection which is like that of *A. farleyense* in kind but not in

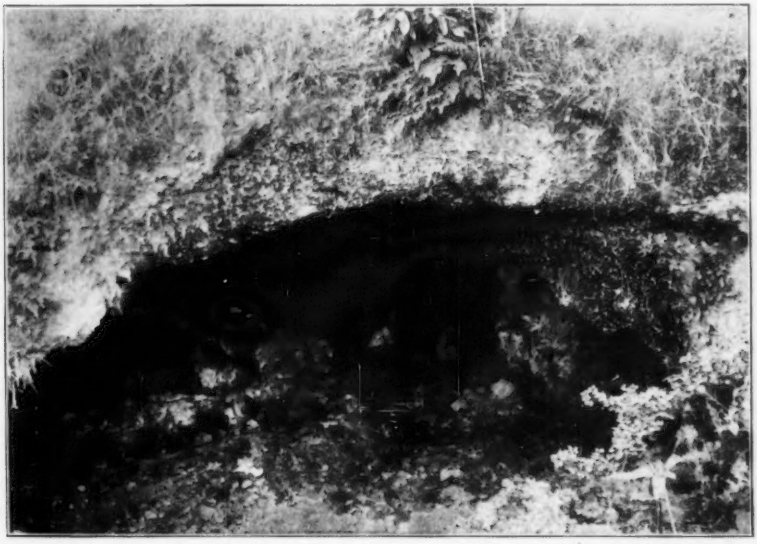

FIG 52. THE CAVE AT FARLEY HILL, WHERE THE FARLEY FERN MAY HAVE GROWN IN EARLIER DAYS.

extent. It we can imagine a plant of *A. tenerum* producing large sterile fronds in deep shade I should expect these to be very similar in form to *A. farleyense*, although I should also expect this same plant when removed to full sunlight to develop fertile fronds and then lose its dissected character.

"I should say that in all probability *A. farleyense* is a sport of *A. tenerum* in which the effort toward fertility is almost wholly suppressed. The glaucous under surface of *A. farleyense* is very pronounced, but this apparently is only an extreme development of a tendency seen in normal *A. tenerum*, particularly in sterile specimens grown in shade."

My impression as a general observer of the Farley fern in cultivation and of *A. tenerum* in the wild confirms the opinion of Dr. Maxon and other fern students that *A. farleyense* is only a form of *A. tenerum;* but the plant is nevertheless so different as to warrant us in following Nicholson and retaining it as a botanical variety. Certain forms of the *farleyense* type, as Roehm von Mordrecht, freely produce indusia. This race, said to be fertile, is displacing *farleyense* as cheaper of propagation, under the name Glory Fern and *Adiantum farleyense gloriosa*.

## TULIPA

†**Tulipa Gesneriana,** L., var. **Darwinia,** cultv. nov.*

The Darwin tulips, a tall and late-blooming race with large leaves: flowers usually self-colored (parti-colored in the Rembrandt strains), in deep red, crimson and purple, the perianth little spreading, usually remaining cup-shaped and deep.

## CANNA

The Cyclopedia of American Horticulture (1900) contains descriptions of 23 species of Canna, the Standard Cyclopedia of Horticulture (1914) has 25 species, and yet the common garden canna cannot be found in these diagnoses; nor one can pick it out in Nicholson's Illustrated Dictionary of Gardening, nor yet in Kränzlin's monograph (Das Pfanzenreich, 1912). This is because the dominant races of cultivated cannas have not been distinguished by acceptable binomials.

FIG. 53. PARTS OF A CANNA FLOWER.

To be sure, the races or groups *C. Annæi*, *C. Ehemanni*, and others, are in the literature, but they are not accorded regular botanical standing and they have also passed out of the knowledge of cultivators. Other and superior races have arisen.

The prevailing garden cannas of the present day are apparently the issue of two lines of development. One line appears to have come through the intermediary of *C. Warscewiczii* and *C. iridiflora;* this issue comprises the general run of contemporaneous cultivated cannas with erect petals and very short flower-tube, which I propose to call *Canna generalis*. The Crozy cannas, once very popular, comprise an older race in this line. The other line shows the strong influence of *C. flaccida*; it is represented

*Cultivar nova.

FIG. 54. CANNA GENERALIS.—THE GARDEN VARIETY CHEERFULNESS.
About three-fourths natural size.

FIG. 55. CANNA ORCHIODES.—ITALIA.
About three-fourths natural size.

in the orchid-flowered cannas with reflexed petals, long tube, and softer more flowing outlines, for which I suggest the name *Canna orchiodes*. It is not to be expected that these lines or races are always clearly distinct, but they are sufficiently separate for useful designation.

The general structure of a flower of cultivated canna is shown in Fig. 53. The three sepals are at 1; three petals, erect in this case, at 2; three upper staminodia (commonly called "petals") at 3; lower staminode or "lip" at 4; inner staminode, with an anther-cell on its side, at 5; pistil at 6. In this particular flower are four well-developed showy staminodia; sometimes they are five.

†**Canna generalis,** cultg. nov.*. Fig. 54.

The usual cultivated "flowering" canna of the present time, in many statures, tints or markings of foliage, and colors of flowers, representing a hardy and popular race: flowers large, mostly 3-4 inches across, some or most of the showy staminodes erect or strongly ascending and the expanded ones oftenest 4, the floral parts united into a tube about ½ inch long and which little if at all exceeds the calyx; lip gradually narrowed and flat at base; petals narrow and remaining erect (well shown in the flower at the right in Fig. 54).

†**Canna orchiodes,** cultg. nov. Fig. 55.

The orchid-flowered cannas of this day, well represented in the varieties Italia and Austria: flower prevailingly larger and broader than in *C. generalis*, the showy expanded staminodes oftener 5, broader and softer, with more flowing outlines: floral parts in-rolled toward base in a funnelform tube 1 inch or more long and which much exceeds the calyx; lip very broad; petals mostly ½ inch or more broad and becoming strongly reflexed (about the second day). The colors in this race run at present from bright yellow to rich red, with spotted, striped and splashed parts, but no clear pinks or whites; foliage green or bronzy. These cannas are less commonly grown than the forms of *C. generalis*, although very showy and more delicate in texture of flowers.

## PORTULACA

One would not look to the common purslane, *Portulaca oleracea*, for cultivars, and yet the var. *sativa*, DC. has long been known as a garden vegetable, with an erect habit, large leaves, and rather large flowers that make it look like another plant; I have collected similar forms in the wild in Venezuela and British Guiana; these forms need further study. I now add another remarkable deviation that I found under cultivation in British Guiana and which is probably widely disseminated, grown under the name *Portulaca grandiflora;* and I have also from the same source a large-flowered form of *P. pilosa*.

†**Portulaca oleracea,** L., var. **giganthes,** cultv. nov. Fig. 56.

Plant prostrate but not as flat as the usual *P. oleracea*, strong and widely spreading: flowers bright yellow, full double, 1 inch or more across, closely subtended by the large floral leaves.

†**Portulaca pilosa,** L., var. **hortualis,** cultv. nov. Fig. 57.

Habit and general character of *P. pilosa;* flowers ¾ inch across, red-purple and showy; petals broadly obcordate, obtuse or somewhat emarginate.

## LATHYRUS

†**Lathyrus odoratus,** L., var. **nanellus,** cultv. nov.

The dwarf sweet pea, as represented particularly in the variety Cupid: plant only a few inches high, with very short internodes, not climbing although producing tendrils

*Cultigens nova.

FIG. 56. PORTULACA OLERACEA VAR. GIGANTHES.

abundantly: leaflets small and relatively short, mostly ¾ inch or less long: peduncles mostly 1-flowered.

## PHASEOLUS

In common cultivation amongst us and known to all persons who raise crops are four types or groups of beans: (1) The abundant annual field and garden type that produces the ordinary dry beans of commerce and which are also grown in gardens as "string beans" and, mostly in the pole varieties, as "shell beans"—the kidney bean and haricot of European literature; (2) the sieva or carolina type, annual, with early-maturing scimitar-shaped flat sharp-beaked pods and flattened white or colored seeds; (3) what we know as the "true limas", potentially perennial but grown as annual, with heavy

FIG. 57. PORTULACA PILOSA VAR. HORTUALIS.

thick foliage and pods, the latter with mostly blunt or incurved beak, and large white seeds; (4) the multiflora beans, potential perennial, as Scarlet Runner and White Dutch Runner.

(1) The first type is *Phaseolus vulgaris*, L. Sp. Pl. 723 (1753), "caule volubili". This is the pole or running bean. It has been assumed that *P. nanus*, L. Cent. Pl. i, 23 (1755), Amoen. Acad. iv. 284, is the common bush or non-scandent form of the plant, but if a person carefully follows through the history of this plant he will be obliged to give up this assumption even though he may not be able to place the species. For the common low garden and field bean, therefore, I propose

†**Phaseolus vulgaris,** L., var. **nonscandens,** ~~cultv. nov.~~

*P. nanus*, Auth., not L.

*P. vulgaris* var. *nanus*, Aschers. Fl. Prov. Brandenb. 170 (1864).

The common bush bean, distinguished from the species by its non-climbing stature; in many horticultural forms.

(2) The sieva type is apparently what was intended by Linnæus in his *Phaseolus lunatus*, and was so understood by his successors. He left no specimens. He gives only one reference to literature, to Bergen, "Catalogus stirpium indigenarum aeque ac exterarum quas hortus medicus Academiae viadrinae complectitur", 1744; to this work I have not had access and do not know whether it contains more than the brief diagnosis quoted by Linnæus. The "leguminibus acinaciformibus" of Linnæus suggests the sieva rather than the lima; and so far as I know, the sieva was then the widely spread type, as indeed it is today. It is the sieve type that Bentham understands to be *P. lunatus* (Fl. Brazil. xv, pt. 1, 181); and this is apparently DeCandolle's understanding of it also (Prodr ii, 393).

Another Linnæan name is involved, *P. inamœnus*, Sp. Pl. 724. By Bentham this is considered to represent what we know as the "true lima" (No. 3), and De Candolle retains the name as a species. *P. inamœnus* has no character in Species Plantarum except that cited from Hortus Cliffortianus. In Hort Cliff. is a good description for those days, with the record that seeds came from Africa, and that the plant bloomed Dec. 10, 1736. He left no specimens. Apparently it did not fruit, for the pod is not described; but the seed (received from Africa?) is "lineis rubicundis variegata". The character is not that of the so-called true limas. Jacquin figures *P. inamœnus*, L. in Hortus Vindobonensis t. 66, but it cannot be the plant intended by Linnæus, for Jacquin's plant has narrow prolonged leaflets whereas Linnæus' description calls for triangular-oblong leaflets. If Jacquin's plant belongs here at all, it is a sieva rather than a lima type; it suggests a broad-leaved form of the "Willow-leaf lima", which is a sieva. The plate shows a scimitar pod and a red-brown spotted seed. What Linnæus had as *P. inamœnus* I do not know.

*Phaseolus bipunctatus*, Jacq. Hort. Vindob. t. 100, is usually referred to *P. lunatus*. The seed was received from the Cape and the plant grown "in caldario horti". It is a hirsutulous plant, with a lightly villous pod, and white seed with ferrugineous spot either side the hilum. I do not recognize it.

Although I cannot establish the identity of *P. lunatus*, L. with the sieva type, neither can I say it is not the sieva; and there is every probability that the two belong together. My disposition of the sieva beans common in our gardens is as follows:

**Phaseolus lunatus,** L. Sp. Pl. 724. Sieva, Civet, Sewee, Carolina bean, common in gardens in the United States and cultivated or half wild commonly in the West Indies. Fig. 58. Root annual, at least in the United States: leaves relatively small, thin: pod

parchment-like and early dehiscing, not thick-edged or double-furrowed, scimitar-shaped and with a very sharp often upturned beak; seeds small, flat, white, colored or mottled.

†**Phaseolus lunatus** var. **lunonanus,** cultv. nov.

Dwarf Sieva bean, and sometimes known as dwarf lima: a bush form, without developed twining stems.

†**Phaseolus lunatus** var. **salicis,** var. nov.

Willow-leaf bean. Leaflets narrow-lanceolate to linear-lanceolate, 3-6 inches long, ½-¾ inch broad. Although I have this plant only as a cultivated subject, I have seen specimens collected in northern South America with the statement that it was truly wild.

(3) What are known to cultivators as the true lima beans are now to be considered. It is for this type apparently that Bentham proposed the name *P. lunatus* var. *macrocarpus* in Fl. Brazil. xv, pt. 1, 181. I am convinced that it is a good species, however, and the problem is to find a name for it. Bentham gives the following synonomy:

var. *macrocarpus.*
*P. inamœnus,* L. Jacq. Hort. Vindob. t. 66.
*P. puberulus,* HBK. vi, 451.
*P. saccharatus,* Macf. Fl. Jam. 282.
*P. Xuaresii,* Zucc. in DC. ii, 393.
*P. amazonicus,* Benth. in Pl. Spruc. exsicc.

I cannot elevate *macrocarpus,* for the

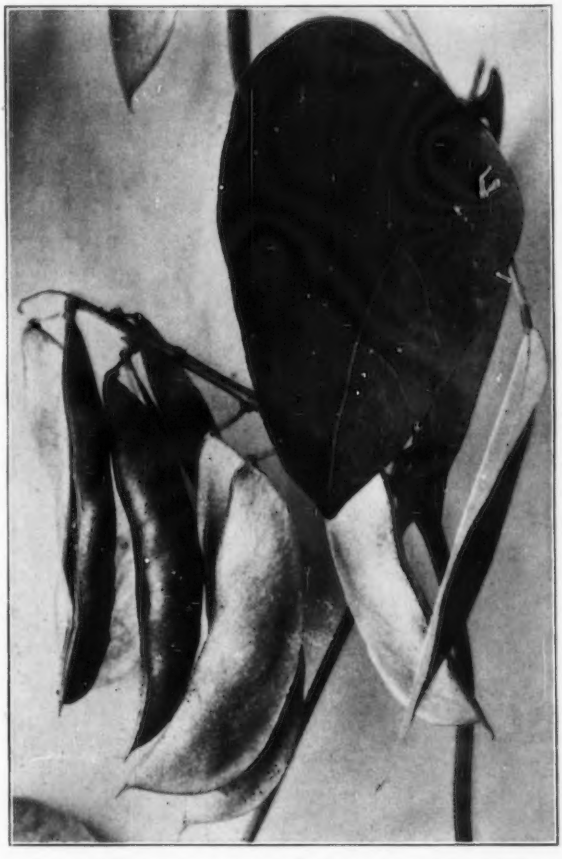

FIG. 58. PHASEOLUS LUNATUS. ONE OF THE SIEVA BEANS. Nearly natural size.

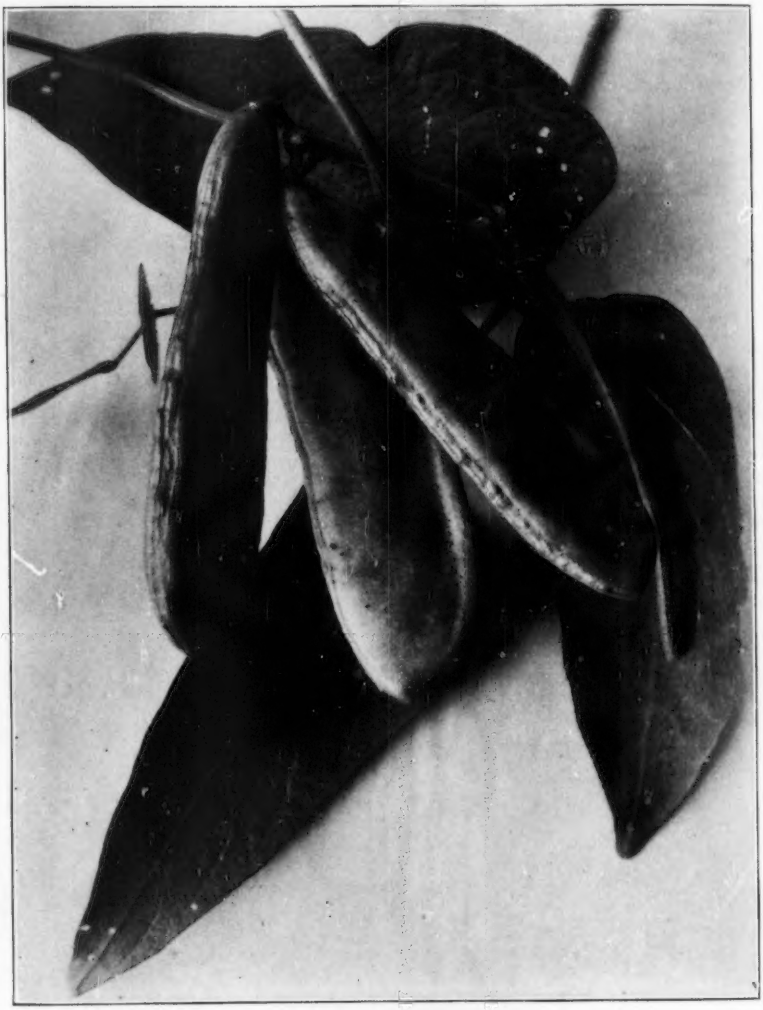

FIG. 59. PHASEOLUS LIMENSIS.—THE CHALLENGER LIMA BEAN.
About three-fourths natural size.

name is otherwise occupied. I cannot identify *P. inamœnus*. *P. puberulus* was taken in the wild near Caracas; the description does not allow me to place it here. *P. saccharatus* is represented by a Macfadyen specimen at Kew and I have a photograph of it; the plant is sieva, *P. lunatus*. One cannot identify *P. Xuaresii* without a specimen. *P. amazonicus* appears not to have been published.

I now fall back on Macfadyen, Flora of Jamaica, 1837. He made five new species. Of only *P. saccharatus* apparently is a specimen extant. His species are in two groups, (1) root perennial, (2) annual. In the latter class are *P. saccharatus*, p. 282, and *P. latisiliquus*, p. 282. In the former or lima bean class are *P. dumosus*, p. 279, a wild thing and not cultivated; *P. limensis*, p. 279, Lima Bean; *P. fœcundus*, p. 281, Prolific or Hibbert Bean. I cannot make *P. dumosus* satisfy me for the lima. In *P. limensis*, I do not like the statement, "racemes shorter than the leaf", yet this is true of young racemes in the garden lima; and a few other minor points are not wholly satisfactory. The common name "Lima Bean", which he gives, is not to be disregarded as evidence. I do not know the identity of *P. fœcundus;* it has glabrous pods and puberulous standard, but I suppose it is a form of the lima bean. I accept the name *limensis* until a better conclusion presents itself; and the species becomes as follows:

**Phaseolus limensis,** Macf. Fl. Jamaica, 279 (1837).

*P. lunatus* var. *macrocarpus*, Benth. Fl. Brazil. xv, pt. 1, 181 (1859-62).

Lima bean. Fig. 59. Root perennial or potentially so: leaves large and thick: pod heavy and thick-edged, usually strongly double-ribbed on back, with beak relatively short and either somewhat incurved or not strongly ascending, very tardily dehiscing; seeds large, white, flat or turgid.

†**Phaseolus limensis** var. **limenanus,** cultv. nov.

The Dwarf or Bush limas, distinguished by the essentially low non-twining stature.

(4) The multiflora beans, heretofore known as *P. multiflorus*, should take the Linnæan name *P. coccineus*, even though one of the important races is white-flowered. The description in Linnæus is not sufficient for identification, but the diagnosis of Morison, to whom he refers (Hist. Oxon. 2, p. 69) seems to leave no doubt as to what was meant. The cultivated multiflora beans then become:

**Phaseolus coccineus,** L. Sp. Pl. 724 (1753).

*P. vulgaris* var. *coccineus*, L. Sp. Pl. ed 2, 1016 (1763).

*P. multiflorus*, Willd. Sp. Pl. iii, 1030 (1800).

*Lipusa multiflora*, Alef. Landw. Fl. 26 (1866).

Scarlet Runner bean, a familiar garden climber, grown both for ornament and food.

†**Phaseolus coccineus** var. **rubronanus,** cultv. nov.

Bushy, not climbing: flowers red or scarlet: apparently an unusual race.

†**Phaseolus coccineus** var. **albiflorus,** cultv. nov.

White Dutch Runner. Climbing; flowers and seeds clear white: grown mostly for food.

†**Phaseolus coccineus** var. **albonanus,** cultv. nov.

Plant bushy, not climbing: flowers and seeds white: has been advertized as a dwarf lima.

## PELARGONIUM

Three types of florist's pelargoniums are in common cultivation, under the general name "geranium": (1) the ivy-leaved, associated with *Pelargonium peltatum;* (2) the "fish geraniums", popular for bedding and general favorites in window-gardens; (3) the Lady Washington or show geraniums. Those of the first class are rather clearly associated with a single species and may be passed for the present, but the other two stand quite apart.

**Pelargonium hortorum,** Bailey, Botany, An Elem. Text-Book, 314 (1900); Cyclo. Amer. Hort. 1262, Figs. 1699-1701 (1901).

"Garden geranium. Fish geranium. Fig. 183. Stem somewhat succulent and hairy: leaves orbicular or reniform, crenate-lobed, often with bands of different colors: flowers in umbel-like clusters, deflexed in bud, of many colors, often double".—*Text-book,* (1900). This common group, much used for bedding, is oftenest associated with *P. zonale,* Willd. and sometimes with *P. inquinans,* Ait., but it cannot take either name with definiteness and without obscuring the identity of those species as they were understood at the beginning. It remains for subsequent determination whether *P. zonale* and *P. inquinans* themselves, as founded, are really indigens.

**Pelargonium domesticum,** Bailey, Cyclo. Amer. Hort. 1263, Fig. 1705 (1901).

The Show, Fancy and Lady Washington geraniums of greenhouses, not used in this country for bedding. A group of plants well recognized by florists, much like *P. cucullatum,* Ait., *P. angulosum,* Ait., and related species. Among the numbers of cultigens described and figured by Sweet a century ago, it is possible to pick out more than one that might be taken as the type of the plant I proposed as *P. domesticum;* but those are historic races that have now apparently passed away and it would be violence to try to make them serve modern uses; the significance of them lies in retaining them for the particular plants for which they were intended.

## TROPÆOLUM

The common garden nasturtium, whether tall or dwarf, is of one essential character, and that character does not correspond well with the plants described and figured as *Tropæolum majus,* L., *T. minus,* L., or *T. peltophorum,* Benth., although coming nearest the first. The supposition that the tall form is *T. majus* and the dwarf one *T. minus* does not tally with early descriptions. These species are not separable on climbing and non-climbing stature. It is a question whether the three species named above represent actual feral types. The Linnæan species are apparently founded on cultivated material, although type specimens exist. The present commonly cultivated nasturtium, as known in this country, in color and other characters appears to be a different race, derived from native stocks yet to be studied. I see little evidence that *T. peltophorum* (*T. Lobbianum,* Veitch) has left its mark in them, as commonly supposed; nor do I find much evidence of the plant early defined as *T. minus.* Buchenau (Das Pflanzenreich, heft 10. 1902) appears to regard *T. majus* as the dominant form in the cultivated nasturtium. To this I agree, but with the reservation that I wish to study *T. majus* alive from undoubted native material and that the cultigen may need a separate name. For the present I call the cultigen *T. majus.*

## VITIS

†**Vitis Labruscana,** cultg. nov.

The Labruscan vineyard grapes, comprising the most important pomological varieties in the eastern states, representing the direct offshoots of *V. Labrusca,* as Concord and Worden, together with such secondary derivatives (as Niagara) as retain the essential habit, foliage and flower characters of *V. Labrusca.* The Labruscans are distinguished from the native species by the larger and usually shouldered and conic or thyrsoid rather than short or nearly simple clusters of fruit, larger and less "foxy" berries of various colors, usually more lobed and less tomentose leaves, tendrils often intermittent. Many of these grapes have partial *V. vinifera* parentage; none of them can be regarded as the indigenous *V. Labrusca,* a grape that is not in cultivation except as it may be now and then transferred from the wild. Whatever the parentage, the true Labruscan shows more of the *V. Labrusca* character than of any other. These grapes form a heavy-leaved class well understood by vineyardists and requiring no extended definition.

## BEGONIA

Begonias have been subjects of extensive hybridizations and the cultivars are numerous. Some of the original species have passed out of cultivation, and the modified progeny has erroneously retained the old specific names. This is the case with *Begonia Rex*, which is now rarely seen with us in its original character; that character calls for an unlobed bullate leaf reddish beneath, deep metallic green above and with an irregular zone of silvery-white about 1 inch broad all around the blade and midway between the margin and center, and a tinged purple surface outside the zone.

†**Begonia Rex-cultorum,** cultg. nov.

The Rex derivatives, apparently by hybridization and probably by mutation, now representing an important class of plants with illustrated foliage, including many named varieties: distinguished by leaves unlobed although in some varieties with angle-points and frequently sinuate, with a wide variety of markings different from those of *B. Rex*, usually variously shaded, blotched and marbled in many tints: they have the Rex habit of a declined or hanging shield-like leaf-blade facing outward, the tip often nearly touching the ground.

Other changes in Begonia nomenclature are necessary, and they may be brought together here.

†**Begonia nigricans**, nom. nov.

*B. subpeltata nigricans*, Hort., not *B. subpeltata*, Wight, Ic. t. 1812.

A plant of horticultural origin, keying with the *B. incarnata* series but separated by the capsule nearly or quite equally 2-winged rather than with one wing strongly developed: an erect glabrous branching plant 2-3 feet high: leaves ovate in outline, acuminate, 4-9 inches long, with deep basal sinus that is sometimes closed by overlapping of the lobes as if the blade were peltate, irregularly angled-toothed all the way around, the margins bristly serrate, very red beneath, dark silvery-green and more or less dark-marked above and slightly hairy, the hairs sometimes dark red, sometimes becoming bronzy: flowers rose-tinted, in forking peduncled clusters; pistillate about 1 inch across, with 5 nearly equal parts and 3 similar wings.

†**Begonia rubellina,** nom. nov.

*B. rubella*, Hort., not Buch-Ham. ex Don in Prodr. Fl. Nepal. 223.

Closely related to *B. speculata*, Hort., but the purplish-green leaves spattered with irregular dark brown spots: it is one of the rhizomatous begonias, probably of garden origin, with oblique broad-ovate somewhat lobed and angle-pointed palmately nerved cordate leaves 6 to 10 inches across; petioles very shaggy.

†**Begonia Dregei** var. **Macbethii,** n. tr.*

*B. Macbethii*, Hort.

Mostly a smaller and more slender plant than *B. Dregei* itself and passing for it in cultivation, growing rapidly; glabrous, 1-1½ feet: leaves smaller, mostly not exceeding 2 inches longest way, deeply notched-lobed (sometimes to more than half the depth), the margin with few angle-teeth: flowers white, smaller, the staminate ¾ inch or less across.

## QUAMOCLIT

The Cardinal Climber, introduced by Henry A. Dreer in 1912, is a distinct type in the ipomeas. It reproduces true from seed. I submitted specimens and historical data to Dr. H. D. House, who has published on Ipomœa and related genera, and his report follows:

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**Translatio nova:* New transfer. (see Gent. Herb. 8. 1920).

FIG. 60. QUAMOCLIT SLOTERI.
About natural size.

†**Quamoclit Sloteri,** House, hyb. sp. nov. Fig. 60.

An annual, glabrous, slender, high climbing vine: leaves broadly deltoid-ovate, 5-12 cm. broad, 4-10 cm. long, pectinately lobed to beyond the middle into 7-15 long-acuminate segments, the middle segment broadest, the lateral ones shortest and sometimes again lobed; petioles 2.5-10 cm. long: peduncles axillary, usually exceeding the subtending petioles, 1-3-flowered: sepals 5, 7-10 mm. long, narrowly ovate, the outer ones thicker, somewhat shorter and minutely awned at the apex, the inner ones blunt or obtuse (sometimes awned) and thinner in texture; corolla subsalverform, crimson, 4-5 cm. long, the tube about 4 mm. thick at the base, 6-7 mm. thick below the limb which is 3.5-4 cm. broad with 5 broadly rounded lobes.

The type specimens are two sheets in the herbarium of L. H. Bailey, raised from Thorburn seed (No. 67440), September 12, 1918 and October 1918. An additional specimen is labelled "Houston, Texas, July 24, 1918".

This attractive hybrid between *Quamoclit Quamoclit* (L.) Britton* and *Quamoclit coccinea* (L.) Moench, was originated by Mr. Logan Sloter of Columbus, Ohio, who states (letter of August 11, 1923), that the Cardinal Climber is not a chance hybrid, but is the result of a cross between *Ipomœa Quamoclit* (pollen parent) and *Ipomœa coccinea*. The hybridization was done carefully and the blossoms were tied up to exclude any possible chance for foreign pollen to reach them. This was several years ago, and the process had to be repeated over a period of eleven years before one of the hybrid plants produced seed of its own, and that consisted of but one seed. But the next year the plant from this one seed produced some 500 seeds. Attempts to cross the hybrid with either of its parent species failed.

Quamoclit is sometimes reduced to a section or subgenus of Ipomœa, in which case the plant described above may be designated as *Ipomœa* (§ Quamoclit) *Sloteri*, House, hyb. sp. nov.

## CAPSICUM

For more than thirty years I have tried to make out the botany of the cultivated Capsicums, and to that end have grown them and have observed and collected them in tropical America. I am convinced that the horticultural kinds are all forms of one

*_Quamoclit pennata_, Bojer.

species, and that the species is shrubby, the herbaceous or so-called annual kinds being races that develop in a short season and do not become woody before killed by frost. In the Capsicum shrubs of the tropics one finds puffy fruits of the bell-pepper type as well as the slender finger-like and the berry-like kinds; and when the northern kinds are grown in the tropics they become shrubs. Leaf variation also has equal range. I therefore propose to arrange the most significant forms of this multifarious species under *C. frutescens* rather than under *C. annuum*. In doing so, I accept the second rather than the first of the two names proposed by Linnæus in Species Plantarum; but when no question of authority or priority is involved, I cannot allow the accident of precedence on pages to obscure a biological fact.

†**Capsicum frutescens,** L. Sp. Pl. 189 (1753).
*C. annuum*, L. l.c. 188.
*C. baccatum*, L. Mant. 47 (1767).
*C. frutescens* var. *baccatum*, Irish, 9th Rep. Mo. Bot. Gard. 99 (1898).

Any number of varieties may be made from the size, shape, color, position and quality of the fruits, but it is not necessary to bring up all the kinds in Fingerhut or other works; all essential uses will be served by naming five of them. *Capsicum frutescens* is sometimes a shrub 6-8 feet high, much branched, the trunk becoming 3 inches through and the wood very hard.

†**Capsicum frutescens** var. **cerasiforme.**
*C. cerasiforme*, Mill. Gard. Dict. ed. 8, n. 5 (1768).
*C. annuum* var. *cerasiforme*, Irish, l.c. 92.

†**Capsicum frutescens** var. **conoides.**
*C. conoides*, Mill. l.c. n. 8.
*C. annuum* var. *conoides*, Irish, l.c. 65.

†**Capsicum frutescens** var. **fasciculatum.**
*C. fasciculatum*, Sturt. Bull. Torr. Bot. Club, xv, 133 (1888).
*C. annuum* var. *fasciculatum*, Irish, l.c. 68.

†**Capsicum frutescens** var. **longum.**
*C. annuum* var. *longum*, Sendt. in Martius Fl. Bras. x, 147 (1846—).

†**Capsicum frutescens** var. **grossum.**
*C. annuum* var. *grossum*, Sendt. l.c.

## PSEUDERANTHEMUM AND DÆDALACANTHUS

In the Gardener's Chronicle 1875, William Bull advertized four Eranthemums with brief descriptions and with the statement that they "were imported by the director of the Royal Botanic Gardens, Kew, by whom they have been distributed; they have not yet bloomed, and therefore the names are provisional". While this announcement is not a regular publication of a species, yet it is cited by Index Kewensis (as "Hort."), and Sir J. D. Hooker took it up ("Hort. Bull") in Botanical Magazine, t. 7839, although Hooker's plant proves not to be the same as Bull's. Both plants must be transferred to Pseuderanthemum, if this genus is to be retained as proposed by Radlkofer and accepted by Lindau and others; that genus will than have two *atropurpureums;* one of the species must take a new name; I prefer to retain Bull's name because it is the older and is cited by Hooker and Index Kewensis (being therefore regularly in the literature), and because of the special character of its announcement as emanating from Kew; moreover, a specimen representing Bull's plant is preserved in the herbarium at Kew, and Director Hill has kindly had one of my specimens compared with it.

**†Pseuderanthemum atropurpureum.** Fig. 61.

*Eranthemum atropurpureum*, Bull, Gard. Chron. 1875, i, 619, not Hook. f.

The species I here place in Pseuderanthemum is widespread as a planted subject. I have taken it from Bermuda to Venezuela. I think it is in Florida.

The other plant, which Hooker supposed to be Bull's, may be called

**†Pseuderanthemum kewense.**

*Eranthemum atropurpureum*, Hook. f. Bot. Mag. t. 7839 (1902), not Bull.

The genus Pseuderanthemum is proposed for the plants heretofore commonly known as Eranthemum; this allows Eranthemum to be restored to the Linnæan conception, taking the place of Dædalacanthus, T. Anderson. There is one common true Eranthemum (Daedalacanthus) in cultivation; and as some of the synonymy has been improperly transferred, a statement of it may be made:

**Eranthemum nervosum,** R. Br.; Roem. & Schult. Syst. i, 174 (1817).

*Justicia nervosa*, Vahl, Enum. i, 164 (1805); Bot. Mag. t. 1358.

*Dædalacanthus nervosus*, T. Anders. Journ. Linn. Soc. ix, 487 (1867).

*Eranthemum pulchellum*, Gartenmag. 1810, 176 t. 17. This name is erroneously transferred to Pseuderanthemum by Merrill (Phillip. Journ. Sci. vii, Bot. 248.

FIG. 61. PSEUDERANTHEMUM ATROPURPUREUM (ERANTHEMUM ATROPURPUREUM, BULL). One-third natural size.

1912), to take the place of *P. bicolor*, Radlkf.; but the picture in the Gartenmagazin is *Eranthemum nervosum* and not a Pseuderanthemum, as is also *E. pulchellum*, Andr. Bot. Rep. t. 88.

## CHRYSANTHEMUM

About ten years ago I proposed a collective name for the florist's chrysanthemum, *C. hortorum*, Stand. Cyclo. Hort. 755, figs. 938-950 (1914), as I then supposed that the cultigen had not been named as such. Subsequently I had the origin of this chrysanthemum in mind in collecting in China; I found only *C. indicum*, L., and wrote (Gent. Herb. 48) that "it is supposed to be one of the parents of the garden chrysanthemum (*C. hortorum*, Bailey), but it is my conviction that we should not speculate further on this subject until the wild forms in China are well collected, over a wide range, and are assembled for study".

*Chrysanthemum morifolium*, Ram. Journ. Hist. Nat. ii, 240 (1792) has latterly been taken as the original species of the florist's chrysanthemum; but it turns out that it is a name for a cultigen and not for a wild species in China. If one reads the account of de Ramatuelle, one finds that he had only cultivated plants; and these plants were alre ady far departed from a wild prototype: "C'est à M. Blancard, négociant à Marseille, que nous devons cette plante. Il l'a apportée de la Chine en 1789. Il en avoit trois variétés, une à fleurs blanches, une autre à fleurs violettes, une troisième à fleures purpurines. Il n'a pu conserver que cette dernière".

It will be noted that he had three varieties, one with white flowers, one with violet, one with purplish. Yellow varieties were included in Sabine's *C. sinense*, Trans. Linn. Soc. xiv, 145 (1823), as seen in the excellent illustrations in Trans. Lond. Hort. Soc. iv, t. 14 (1821).

It is apparent that *C. morifolium* is a cultigen, and we have still to look for the wild prototype; and when the prototype is found we must expect it to carry some other name. *C. sinense*, Sabine (also a cultigen) and *C. hortorum*, Bailey, are to be considered as synonyms of *C. morifolium*.

## RUDBECKIA

†**Rudbeckia laciniata,** L., var. **hortensia**.

The Golden Glow, a dominant and persistent garden type distinguished by full double flowers (heads), the rays being much multiplied. This plant was introduced about 1894 by the late John Lewis Childs of Long Island. It is supposed to have come from somewhere in the Middle West, but the exact origin of the mutant is unknown.

## PART II. TRANSFERS IN NOMENCLATURE, AND OTHER RECORDS

Herein are gathered the transfers ("new combinations", see Gent. Herb. p. 8) that have naturally arisen in the writing of the Manual of Cultivated Plants.

For the convenience of the bibliographer I have also given the place of publication of earlier transfers under my responsibility, for some of them might not be readily found, and it may be useful to have the record brought together. Those transfers that have no authority after them are mine.

It is of course possible that some of these transfers may have been published by others; if so, I hope this record will bring them out so that corrections may be made.

†**Pityrogramma calomelanos,** Link, var. **aureo-flava,** Weatherby in herb.
*Acrostichum chrysophyllum*, Sw. Schrad. Journ. 1800, pt. 2. 14 (1801).
*Gymnogramma chrysophyllum*, Kaulf. Enum. Fil. 74 (1824).
*Pityrogramma chrysophylla*, Link, Hand. Gewachs. iii, 19 (1833).
*Ceropteris chrysophylla*, Link, Fil. Hort. Berol. 143 (1841).
*Gymnogramme calomelanos*, β *aureo-flava*, Hook. Garden Ferns, under pl. 50 (1862).
*Gymnogramme calomelanos* "γ *G. chrysophylla*" Hook. & Bak. Syn. Fil. 385 (1868).
*G. calomelanos* var. *chrysophylla*, Krug, Engl. Bot. Jahrb. xxiv. 134 (1897).

†**Platycerium bifurcatum,** C. Chr., var. **majus,** Weatherby in herb.
*P. alcicorne majus*, Moore in Veitch Cat. 1873, 13; Gard. Chron. n. s. ii, 747 (1874).

†**Holcus virgatus.**
*Andropogon Sorghum* subsp. *halepensis* var. *virgatus*, Hack. in DC. Monogr. Phan. vi, 504 (1889).
*A. Sorghum* var. *exiguus*, Piper, Proc. Biol. Soc. Wash. xxviii, 32 (1915) [Excluding *Holcus exiguus*, Forsk.].
*Holcus Sorghum* var. *exiguus*, Hitch. Proc. Biol. Soc. Wash. xxix, 128 (1916).
*Sorghum virgatum*, Stapf, Fl. Trop. Afr. ix, 111 (1917).

†**Holcus sudanensis.**
*Andropogon Sorghum* var. *sudanensis*, Piper, Proc. Biol. Soc. Wash. xxviii, 33 (1915).
*Holcus Sorghum* var. *sudanensis*, Hitch. Proc. Biol. Soc. Wash. xxix, 128 (1916).
*Sorghum sudanense*, Stapf, Fl. Trop. Afr. ix, 113 (1917).

†**Holcus Sorghum** var. **saccharatus.**
*Holcus saccharatus*, L. Sp. Pl. 1047 (1753).
*Sorghum saccharatum*, Moench, Meth. Plant. 207 (1794).
*Andropogon Sorghum* var. *saccharatus*, Alef. Landw. Fl. 313 (1866).

†**Holcus Sorghum** var. **technicus.**
*Andropogon Sorghum* var. *technicus*, Koern. & Wern. Handb. Getreideb. i, 308 (1885).

†**Holcus Sorghum** var. **Roxburghii.**
*Andropogon Sorghum* subsp. *sativus* var. *Roxburghii*, Hack. in DC. Monogr. Phan. vi, 510 (1889).
*Sorghum Roxburghii*, Stapf, Fl. Trop. Afr. ix, 126 (1917).

†**Holcus Sorghum** var. **Durra.**
*Holcus Durra*, Forsk. Fl. Aegypt. 174 (1775).
*Sorghum Durra*, Stapf, Fl. Trop. Afr. ix, 129 (1917).

†**Holcus Sorghum** var. **caffrorum.**
*Holcus caffrorum*, Thunb. Prodr. Pl. Cap. 20 (1794).
*Sorghum caffrorum*, Beauv. Agrost. 131, 178 (1812).

†**Holcus Sorghum** var. **caudatus.**
*Andropogon Sorghum* subsp. *sativus* var. *caudatus*, Hack. in DC. Monogr. Phan. vi, 517 (1889).
*Sorghum caudatum*, Stapf, Fl. Trop. Afr. ix, 131 (1917).

†**Setaria italica,** Beauv., var. **stramineofructa.**
*S. italica* subsp. *stramineofructa*, Hubbard, Amer. Journ. Bot. ii, 188 (1915).

†**Setaria italica** var. **rubrofructa.**
*S. italica* subsp. *rubrofructa*, Hubbard, l.c. 193.

†**Setaria italica** var. **nigrofructa.**
*S. italica* subsp. *nigrofructa*, Hubbard, l.c. 195.

†**Aspris capillaris,** Hitch., var. **pulchella.**
*Aira pulchella*, Link, Hort. Berol. i, 130 (1827).
*Agrostis pulchella*, Hort.

†**Triticum æstivum,** L., var. **monococcum.**
*T. monococcum*, L. Sp. Pl. 86 (1753).

†**Triticum æstivum,** L., var. **dicoccum.**
*T. dicoccum*, Schrank, Baier. Fl. i, 389 (1789).
*T. aestivum* subsp. *dicoccum*, Thell. Mem. Soc. Sci. Nat. Math. Cherbourg xxxviii, 141 (1912).

†**Triticum æstivum** var. **Spelta.**
*T. Spelta*, L. Sp. Pl. 86 (1753).
*T. aestivum* subsp. *Spelta*, Thell. Mitt. Naturw. Ges. Winterthur. xii, 147 (1918).

**Zea Mays,** L., var. **everta,** Bailey, Cyclo. Amer. Hort. 2005 (1902).

**Zea Mays** var. **indurata,** Bailey, l.c.

**Zea Mays** var. **indentata,** Bailey, l.c. 2006.

**Zebrina pendula,** Schnizl, var. **quadricolor,** Bailey, l.c. 2006 (forma *quadricolor*, Voss).

**Hosta Fortunei,** Bailey, Stand. Cyclo. Hort. 1604 (1915).

†**Hosta japonica,** Voss, var. **tardiflora.**
*Niobe japonica* var. *tardiflora*, Nash, .l c.
*Hosta lancifolia* var. *tardiflora*, Bailey, l.c. 1605.

†**Hosta undulata.**
*Funkia undulata*, Otto & Dietr. Allegm. Gartenz. i, 119 (1833).
*Fukia lancifolia* var. *undulata*, Bailey, Cyclo. Amer. Hort. 619 (1900).
*Niobe undulata*, Nash, l.c. 5.
*Hosta lancifolia* var. *undulata*, Bailey, Stand. Cyclo. Hort. 1605 (1915).
*Hosta japonica*, Voss f. *undulata*, Voss, Vilm. Blumeng. 1076 (1896).

**Peperomia Sandersii,** C. DC., var. **argyreia,** Bailey, Stand. Cyclo. Hort. 2544 (1916), (*P. arifolia* var. *argyreia*, Hook. f.).

**Ficus pumila,** L. var. **minima,** Bailey, Stand. Cyclo. Hort. 1231 (1915).

†**Kochia scoparia,** Schrad., var. **trichopila.**
*Kochia trichophila,* Voss, Deutsch. Gartenrat, 1904, Beil. Pflanzenk. 18.
*Kochia trichophylla,* Voss, l.c.; Rev. Hort. 1907, 119, attributed to Stapf, with full diagnosis.
*Kochia scoparia* forma *trichopila,* Schinz & Thell. Verz. Sam. Bot. Gart. Zurich, 1909, 10; Bot. Mag. t. 8808 (1919).

**Polygonum Sieboldii,** DeVriese, var. **compactum,** Bailey, Cyclo. Amer. Hort. 1393 (1901); Stand. Cyclo. Hort. 2743 (1916).

†**Amaranthus tricolor,** L., var. **angustior.**
*A. gangeticus,* L., var. *angustior,* Bailey, Gent. Herb. 21 (1920).

†**Amaranthus hybridus,** L., var. **hypochondriacus.**
*Amaranthus hypochondriacus,* L. Sp. Pl. 991 (1753).
*A. hybridus,* L., forma *hypochondriacus,* Robinson, Rhodora x, 66 (1908), correcting clerical error on p. 32.

**Lychnis coronata,** Thunb., var. **Sieboldii,** Bailey, Cyclo. Amer. Hort. 956 (1900).

**Brassica.** The species and varieties are accounted for in Gent. Herb. 53-108 (fasc. 2). A missprint in the Brassica paper needs correction. On page 95, the first line in the third full paragraph should read, "The indentity of *Sinapis cernua,* Thunb." instead of *Sinapis juncea.*

**Raphanus.** The new varietal names are made in Gent. Herb. 25 (fasc. 1).

†**Ribes sativum,** Syme, var. **macrocarpum.**
*Ribes macrocarpum,* Jancz. Compt. Rend. Paris, 1900, 589.
*Ribes vulgare,* Lam., var. *macrocarpum,* Jancz. Mém. Soc. Phys. Hist. Nat. Genève, xxxv, 279, fig. 22, 23 (1907).
*Ribes vulgare,* Lam., is apparently a synonym of *R. rubrum.*

**Rosa cathayensis,** Bailey, Gent. Herb. 29 (fasc. 1).

**Fragaria chiloensis,** Duchesne, var **ananassa,** Bailey, Cyclo. Amer. Hort. 605 (1900).

**Prunus domestica,** L., var. **insititia,** Bailey, Rhodora, xviii, 155 (1916).

**Prunus hortulana,** Bailey, Garden & Forest, v, 90 (1892).

**Prunus hortulana** var. **Mineri,** Bailey, Bull. 38, Cornell Exp. Sta. 23 (1892).

**Prunus Persica,** L., var. **platycarpa,** Bailey in Gray's Field, Forest and Garden Bot. ed. 2, 144 (1895); Cyclo. Amer. Hort. 1457 (1901).

**Prunus Besseyi,** Bailey, Bull. 70, Cornell Exp. Sta. 261 (1894).

**Prunus avium,** L., var. **Juliana,** Bailey, Bull. 98, Cornell Exp. Sta. 386 (1895).

**Prunus avium** var. **duracina,** Bailey, l.c.

**Prunus avium** var. **regalis,** Bailey, l.c.

**Pyrus ioensis,** Bailey, Amer. Gard. xii, 473 (1891).

**Pyrus Soulardi,** Bailey, Amer. Gard. l.c. 472.

**Pyrus micromalus,** Bailey, Rhodora, xviii, 155 (1916).

†**Pyrus prunifolia,** Willd., var. **robusta.**
*Malus robusta,* Rehd. Journ. Arn. Arb. ii, 54 (1922).

**Pyrus prunifolia,** Willd., var. **Rinki,** Bailey, Rhodora, xviii, 155 (1916).

**Pyrus Halliana,** Voss, var. **Parkmani,** Bailey, l.c. 154.

**Pyrus pulcherrima,** Aschers. & Graebn., var. **Scheideckeri,** Bailey, l.c. 155.

**Pyrus pulcherrima** var. **Arnoldiana,** Bailey, l.c.

**†Pyrus Dawsoniana.**
*Malus Dawsoniana,* Rehd. in Sargent Trees and Shrubs, ii, 23 t. 111 (1907).

**Lespedeza japonica,** Bailey, Cyclo. Amer. Hort. 904 (1900).

**Wisteria floribunda,** DC., var. **macrobotrys,** Bailey, Stand. Cyclo. Hort. 3517 (1917).

**†Ampelopsis brevipedunculata,** Koehne, var. **critrulloides.**
*Ampelopsis citrulloides,* Lebas, Rev. Hort. 1875, 179.
*Ampelopsis heterophylla,* Sieb. & Zucc., var. *citrulloides,* Schneid. Laubholz. ii, 320 (1912).
*Ampelopsis brevipedunculata* var. *Maximowiczii,* Rehd., forma *citrulloides,* Rehd. Journ. Arn. Arb. ii, 176 (1922).

**†Ampelopsis brevipedunculata,** Koehne, var. **elegans.**
*Vitis elegans,* Koch, Ind. Sem. Hort. Berol. 1855, app. 16.
*Vitis heterophylla* var. *elegans,* Regel, Gartenfl. xxii, 197 (1873).
*Ampelopsis heterophylla* var. *elegans,* Voss. in Vilm. Blumeng. i, 183 (1894.)
*Ampelopsis brevipedunculata* var. *Maximowiczii,* Rehd., forma *elegans,* Rehd. Journ. Arn. Arb. ii, 176 (1922).

**†Parthenocissus quinquefolia,** Planch., var. **vitacea.**
*Parthenocissus vitacea,* Hitch. Spring. Fl. Manhattan, 26 (1894).

**Vitis æstivalis,** Michx. var. **Bourquiniana,** Bailey in Gray, Syn. Fl. N. Amer. i, 428 (1897).

**Passiflora mollissima,** Bailey, Rhodora, xviii, 156 (1916).

**Oenothera fruticosa,** L., var. **Youngii,** Bailey, Cyclo. Amer. Hort. 1121 (1901).

**Oenothera tetraptera,** Cav., var. **Childsii,** Bailey, l.c.

**Fuchsia magellanica,** Lam., var. **globosa,** Bailey, Cyclo. Amer. Hort. 614 (1900).

**Fuchsia magellanica** var. **gracilis,** Bailey, l.c.

**Fuchsia magellanica** var.**conica,** Bailey, l.c.

**Fuchsia magellanica** var. **Riccartonii,** Bailey, Stand. Cyclo. Hort. 1301 (1915)

**Polyscias filicifolia,** Bailey, Rhodora, xviii, 153 (1916).

**Polyscias Balfouriana,** Bailey, l.c.

**Polyscias Guilfoylei,** Bailey, l.c. and also vars. **laciniata** and **Victoriæ.**

**Polyscias fruticosa,** Harms, var. **plumata,** Bailey, l.c.

**Petroselinum hortense,** Hoffm. var. **crispum,** Bailey Princ. Veg. Gard. 18 ed. 124 (1921).

**Petroselinum hortense** var. **radicosum,** Bailey, l.c.

**†Ipomœa Nil,** Roth, var. **limbata.**
*Ipomœa limbata,* Hort., apud Vilm.
*I. hederacea* var. *limbata,* Nichols. Ill. Dict. Gard. ii, 191 (1885).
*Pharbitis Nil,* Choisy, var. *limbata,* Hook. f. Bot. Mag. t. 5720.

**Perilla frutescens,** Britt., var. **nankinensis,** Bailey, Stand. Cyclo. Hort. 2533 (1916).

**Solanum Melongena,** L., var. **depressum,** Bailey, Bull. 26, Cornell Exp. Sta. 25, (1891).

**Solanum Melongena** var. **serpentinum,** Bailey. l.c.

**Lycopersicon esculentum,** Mill., var. **commune,** Bailey. Princ. Veg. Gard. 18th ed. 266 (1921).

**Lycopersicon esculentum** var. **grandifolium,** Bailey, Bull. 19, Mich. Agr. Coll. 12 (1886).

**Lycopersicon esculentum** var. **validum,** Bailey, l.c.

**Cestrum elegans,** Schlecht., var. **Smithii,** Bailey, Stand. Cyclo. Hort. 727 (1914).

†**Cestrum fasciculatum,** Miers, var. **Newelli.**
*Habrothamnus Newelli,* Veitch, Gard. Chron. 1877, i, 424.
*Cestrum Newelli,* Nichols. Ill. Dict. Gard. 1, 301 (1884).

**Maurandia Lophospermum,** Bailey, Stand. Cyclo. Hort. 2013 (1916).

†**Cymbalaria pilosa.**
*Linaria pilosa,* DC. Fl. Fr. iii, 584 (1815).

†**Mimulus longiflorus,** Grant.*
*Diplacus longiflorus,* Nutt. in Taylor's Ann. Nat. Hist. i, 1, 139 (1838).
*Mimulus glutinosus* var. *brachypus,* Gray in Proc. Am. Acad. 11, 97 (1876).
*Diplacus arachnoideus,* Greene in Bull. Calif. Acad. i, 210 (1885).
*Diplacus speciosus,* Davy in Erythrea ii, 101 (1894).

†**Mimulus leptanthus,** Grant.*
*Diplacus leptanthus,* Nutt. in Taylor's Ann. Nat. Hist. i, 1, 138 (1838).
*Diplacus grandiflorus,* Groenl. in Paris Rev. Hortic. iv, 6, 402, fig. 136 (1857).
*Diplacus glutinosus* var. *grandiflorus,* Lindl. in Paxt. Fl. Gard. iii, pl. 92 (1851-53).
*Diplacus longiflorus,* Greene in Bull. Calif. Acad. Sci. i, 96 (1885).

†**Jacobinia obtusior.**
*Cyrtanthera Pohliana,* Nees, var. *obtusior,* Nees in DC. Prodr. xi, 330 (1847).
The relation of var. *velutina,* Nees, l.c. is yet to be considered (*Jacobinia velutina,* Voss in Vilm. Blumeng. 810).

**Jacobinia spicigera,** Bailey, Stand. Cyclo. Hort. 1715 (1915).

**Jacobinia penrhoziensis,** Bailey, Cyclo. Amer. Hort. 842 (1900).
*Libonia penrhoziensis,* M. A. Lavalleè, Journ. Soc. d'Hort. France, 1875, 200. *L. penrhoziana* is said (p. 204) to be the proper name, but it appears not to have been published.

**Cinchona officinalis,** Hook. f., var. **condaminea,** Bailey, Stand. Cyclo. Hort. 770 (1914).

**Cucurbita Pepo,** L., var. **condensa,** Bailey, Cyclo. Amer. Hort. 409 (1900).

**Cucurbita Pepo,**. L., var. **ovifera,** Bailey, l.c.

**Cucumis sativus,** L., var. **anglicus,** Bailey, Cyclo. Amer. Hort. 408 (1900).

**Chrysanthemum coronarium,** L.; var. **spatiosum,** Bailey, Gent. Herb. 47 (1920).

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*New transfers advanced from monograph of Mimulus by Adele Lewis Grant, to be published by the Missouri Botanical Garden.